



## AN EXTREME CASE OF MICROCEPHALY.

BY E. G. DRU-DRURY, M.D., B.S., D.P.H.

(With Plates IX and X.)

There is a skull preserved in the Port Alfred Mental Hospital, which excites the cupidity of all instructed beholders.

It belonged to a Basuto woman, who died in the institution from tuberculosis at the age of 32.

She was in all other respects well formed physically, of the size of a child of 12, and weighed 60 lbs.

M. J. is described as restless, full of twitching movements, turning her head and eyes rapidly, dirty in her habits, but able to feed herself.

In temper she was impulsive, "biting, kicking, and scratching." "When frightened, or annoyed by the other patient, she flies to an officer, clinging to his legs, and crouching down. Behind this protecting shelter she grimaces and makes noises at her enemy, as if in defiance of anything he can do."

After two years of institutional life she learned to do some work in the laundry, and became cleanly, "exhibiting a wonderful amount of intelligence for the apparent size of her brain."

Two years later she is described as "very fond of music and dances when she hears it."

"During life she was able to make use of a limited number of words and was very affectionate to those who treated her kindly."

The earliest words were Basuto and incoherent, the later are said to have been "mostly swear words," and therefore presumably English. Unfortunately no record of her actual words exists.

After another two years she died.

The above description is drawn from the case books at Grahamstown and Port Alfred, and particularly from notes by Dr. W. G. Atherstone. Her appearance at a medical meeting in 1904 was certainly ape-like, as all observers agreed.

Through the courtesy of the Medical Superintendent, Dr. Walter Atherstone, I was enabled to make an examination of the skull.

Mr. John Hewitt, Director of the Albany Museum, very kindly took four excellent photographs of the skull, and I am much indebted to him for the pains that he expended.

#### FEATURES OF THE SKULL.

##### *Norma Verticalis Phaenozygous.*

The whole of the frontal bone, from glabella to bregma, is visible. The glabella is prominent, forming, with the upper orbital margins, a bracket-shaped curve.

In this view one also sees the whole of the zygoma, the whole lower margin of the orbit, the alveolar border of the upper jaw as far back as the first premolars; both mastoid processes are visible. The temporal fossae are deeply indented. (In the photo the slight tilting of the specimen and the monocular vision of the camera yield slightly different results.)

##### *Norma lateralis.*

This shows well the extreme prognathism; all the teeth are perfect, but the lower central incisors show some absorption of alveolus.

##### *Norma facialis.*

Very little of the cranium is visible.

##### *Norma occipitalis.*

The supra-occipital portion of the occipital bone is very small. Below the inion the bone makes an acute angle with the horizon.

##### *Norma basalis.*

The insignificance of the cranium is a marked feature. The mental tubercles are almost absent, being just perceptible to touch.

##### *Principal Measurements.*

|                                                 |         |
|-------------------------------------------------|---------|
| Length of skull . . . . .                       | 123 mm. |
| Breadth of skull . . . . .                      | 86 „    |
| Height above external auditory meatus . . . . . | 77 „    |

This gives a cranial index of 69·9, or a marked degree of dolichocephaly, yet one which is exceeded by present-day Hottentots and Australian bushmen; and an altitudinal index of 69·9 mm. (tapeinocephaly).

Cranial capacity 340 c.c., *i. e.* equal to an infant of two weeks old. The capacity was repeatedly measured with Kafir corn seeds, well shaken down without ramming, and actually gives a reading less than some anthropoid apes.

|                      |           |
|----------------------|-----------|
| Gorilla . . . . .    | 557 c.cm. |
| Chimpanzee . . . . . | 427 „     |
| M. J. . . . .        | 340 „     |
| Baboon . . . . .     | 210 „     |

A list of more detailed measurements is appended.

*Transverse Measurements.*

|                                                       |        |
|-------------------------------------------------------|--------|
| Bi-frontal distance (processus zygomaticus) . . . . . | 81 mm. |
| Bi-zygomatic distance . . . . .                       | 96 „   |
| Bi-stephanic distance . . . . .                       | 66 „   |
| Bi-parietal distance . . . . .                        | 86 „   |
| Bi-mastoid distance . . . . .                         | 92 „   |
| Bi-asterial distance . . . . .                        | 76 „   |

*Longitudinal Measurements.*

|                                       |         |
|---------------------------------------|---------|
| Glabella to occipital point . . . . . | 123 mm. |
| Nasion to basion . . . . .            | 77 „    |
| Basion to opisthion . . . . .         | 28 „    |
| Basion to alveolar point . . . . .    | 84 „    |

*Vertical Measurements.*

|                                  |        |
|----------------------------------|--------|
| Bregma to basion . . . . .       | 86 mm. |
| Nasion to mental point . . . . . | 97 „   |

*Girths.*

|                                                       |         |
|-------------------------------------------------------|---------|
| Circumference, glabella to opisthion . . . . .        | 333 mm. |
| Vertical girth (bregma and auricular point) . . . . . | 300 „   |
| Longitudinal arc (nasion to opisthion) . . . . .      | 218 „   |
| Frontal portion of arc . . . . .                      | 78 „    |
| Parietal portion of arc . . . . .                     | 68 „    |
| Occipital portion of arc . . . . .                    | 72 „    |

*Special Measurements.*

|                          |        |
|--------------------------|--------|
| Orbit : Height . . . . . | 33 mm. |
| Breadth . . . . .        | 32 „   |
| Index . . . . .          | 103·1. |

The orbit is megaseme to an extreme degree.

|                         |        |
|-------------------------|--------|
| Nose : Height . . . . . | 40 mm. |
| Breadth . . . . .       | 23 „   |
| Index . . . . .         | 52·5.  |

The nose is thus mesorhine.

*Other Indices.*

Dental index of flower :

|                             |        |
|-----------------------------|--------|
| Length . . . . .            | 38 mm. |
| Basi-nasal length . . . . . | 77 „   |
| Index (mesodont) . . . . .  | 43·35. |

Palato-maxillary index of flower :

|                             |        |
|-----------------------------|--------|
| Length . . . . .            | 49 mm. |
| Breadth . . . . .           | 53 „   |
| Index (mesuranic) . . . . . | 112·2. |

*Alveolar or Gnathic Index.*

|                                                    |        |
|----------------------------------------------------|--------|
| Basi-alveolar . . . . .                            | 84 mm. |
| Basi-nasal . . . . .                               | 77 „   |
| Index (prognathous to an extreme degree) . . . . . | 109.1. |

*Facial Index.*

|                                 |        |
|---------------------------------|--------|
| Naso-mental distance . . . . .  | 97 mm. |
| Bi-zygomatic distance . . . . . | 96 „   |
| Index (leptoprosopic) . . . . . | 101.   |

The facial angle of Camper was not estimated.

There was no marked asymmetry.

*Summary.*

The type of skull is long-headed and narrow, with a lowly vault, the face narrow, with ape-like protrusion of the jaws (thick-lipped in life).

The nose was of medium breadth, and the orbits unusually high. The point of interest, which warrants the record, is the diminutive brain space available.

It is not in any sense a record such as Dr. Saunders's specimen, with a brain weighing 170 grammes (specific gravity of whole encephalon = 1036: Bucknil), but it is much smaller than an average case of microcephaly.